



State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection

Robert C. Shinn, Jr.
Commissioner

M E M O R A N D U M

AUG 18 1999

To: Gary Lipsius, Site Manager
Bureau of Site Management

From: *DMK* David M. Kaplan, Supervising Geologist
Bureau of Ground Water Pollution Abatement

Subject: Witco, Perth Amboy
Remedial Action Report (RAR) Addendum

This RAR Addendum addresses five issues: (1) Remediation of soil contamination with PCBs in the heater pad area; (2) Modeling performed to demonstrate natural ground water remediation, including a proposed ground water sampling program; (3) The establishment of a CEA; (4) The filing of a Draft Deed Notice; and (5) Request for a No Further Action (NFA) determination.

My comments will cover the ground water portion of the report, specifically: the proposed ground water monitoring program, the proposed CEA, and the request for a NFA for the ground water. In a memo dated December 4, 1998, I agreed to Witco's proposal for a natural attenuation remedy for the ground water. Therefore, it is not necessary to comment on #2 above - modeling performed to demonstrate natural ground water remediation.

Proposed Ground Water Monitoring Program - The proposed ground water monitoring program includes four additional annual sampling rounds (four annual rounds have been completed to date) in seven monitoring wells. The wells will be sampled for VOCs only. In addition, surface water will be sampled in Spa Spring Creek.

Proposed CEA - The proposed CEA will cover the entire site, will last for four years, and will include the following contaminants: chloromethane; methylene chloride; 1,1-DCE; cis-1,2-DCE; TCE; and BTEX.

NFA Request - Witco has requested a conditional NFA for ground water based on the implementation of a natural ground water attenuation remedy and the establishment of a CEA.

Comments

1. Proposed ground water monitoring program - Witco has proposed to sample Spa Spring Creek and seven monitoring wells: Upgradient well 4S, four plume wells - 1S, 6S, 8S, 11S, and two downgradient sentinel wells 12S, 13S. The wells will be sampled annually for four years for the following VOCs: 1,1-DCE; cis-1,2-DCE; TCE; and BTEX.

At the Witco site in the last sampling round (6/98) there were 11 contaminants in the ground water above the Class II-A GWQS. The maximum values for these contaminants were found in seven plume monitoring wells. The following table shows the highest level for each contaminant and the well in which it was found. The levels are in ppb, with the GWQS in parentheses:

	✓ 1S	3D	4S ✓	6S ✓	8P	11S ✓	14P
1,1-DCE (2)	10						
TCE (1)	280						1.1
Benzene (1)				6.3		15	
Xylene (1000)						3500	
PCB (0.5)					1.1		
Pb (10)		138				50.5	
Cr (100)			439				
Ni (100)			315				
Ba (2000)				3170			
Cd (4)							12.3
As (8)						16.4	

The Tech Rules require that for a natural attenuation remedy, the ground water must be sampled for eight rounds, for all contaminants found above the GWQS. Therefore, the above parameters and monitoring wells must be included in the sampling program. →

Four rounds of sampling have been conducted to date at Witco, and the proposal to conduct four additional annual rounds will bring the total to eight, as required in the Rules. Therefore it is acceptable. However, the list of proposed wells to be sampled and the proposed parameters does not include all of the wells and parameters in the above table and must be modified as follows: The plume wells sampled must consist of the seven wells in the above table. Each well should be sampled only for the contaminants exceeding the Class II-A GWQS in that individual well. In addition, upgradient well 4S and the downgradient Spa Spring Creek should be sampled for all eleven parameters. At the end of the four additional annual rounds of sampling (bringing the total sampling rounds to eight), the Tech Rules require that the Mann-Whitney U-test be applied to each of the eleven contaminants in the seven wells in the table above to determine whether the natural attenuation remedy is working. →

2. Proposed CEA - The proposed CEA includes: boundaries covering the entire site; a longevity of four years; and the following contaminants: chloromethane, methylene chloride, 1,1-DCE, cis-1,2-DCE, TCE, and BTEX. The boundaries and longevity are acceptable. However, the contaminants must include all contaminants found above the GWQS. Therefore, the contaminants in the above table are the CEA contaminants: 1,1-DCE, TCE, benzene, xylene, PCB, lead, chromium, nickel, barium, cadmium, and arsenic.

3. NFA Request - The request for a NFA for the site ground water cannot be approved until the natural attenuation remedy has been completed.

c. Andy Marinucci, BEERA
Tracy Grabiak

#3754